

The Digital Aircraft

Solutions for the aerospace industry



Changing business environment

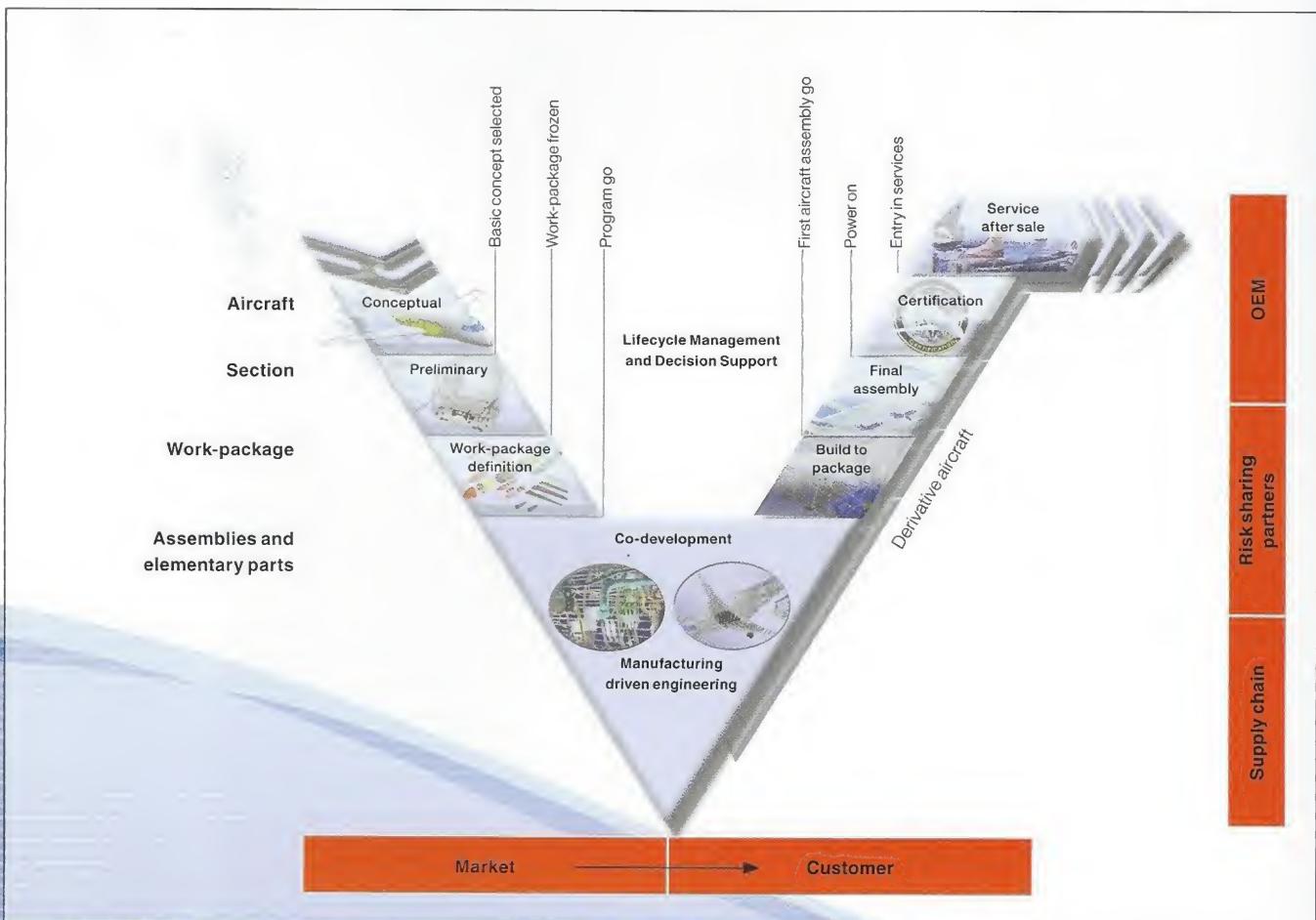
Boeing Commercial Aircraft – Manufacturer and integrator – Program: 7E7

"We are entering the 21st century with new ways of doing business, Breakthrough business processes and systems technologies will enable us to achieve completely new, innovative ways of developing our products."

Scott Griffin, CIO,
The Boeing Company.

The nature of the aerospace marketplace has changed substantially in recent years:

- *The need to anticipate changes in the commercial environment and to have the agility to respond appropriately*
- *More competitive timescales and costs with ever more complex products*
- *The rise of risk-sharing programs*
- *The outsourcing of many design/build/support activities as OEMs increasingly position themselves as large scale systems integrators*
- *An increased focus on rationalising and improving the capability and efficiency of the supply chain.*



Challenges

In addressing performance improvement, the dilemma is clear. Established methods and process are sometimes seen as the safe option: resources can be planned, schedules established and capabilities assumed with an understood level of confidence. New partnering business models and a fiercely competitive global environment however means that yesterday's performance levels are simply not enough. Doing nothing is not an option.

The new business environment demands the ability to distribute and manage physical work-share, greater sharing of tasks and data, the resolution of breakages in process flows, the need to learn from through-life experience and the need to grow new skills.

Today's focus for aerospace program managers is the selection and deployment of performance improvement initiatives. The rewards are realised through:

- *Improved early communication between design, manufacturing and service engineering teams*
- *The ability to constantly monitor performance and cost implications of proposed changes between these teams*
- *The increase of design iterations while reducing costly late changes.*

Airbus – Manufacturer and integrator – Program: A380

"Standardising on IBMs' and Dassault Systèmes' PLM solutions will enable all our divisions to share a common engineering infrastructure for development, construction and production."

*Dr. Andreas Groth, Senior Vice President,
Information Management EADS.*

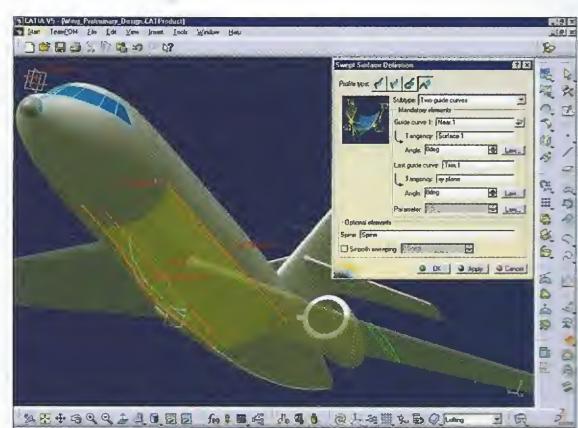
Why I.T. must change

To meet these needs, information technology has had to change in three major areas:

- *To enhance employee and process innovation and productivity, maximising the impact of engineering tools and increased integration*
- *To apply control over the complete product set, related tasks, resources, relationships and, above all, cost*
- *To do so in a seamless collaborative environment, across organisational and geographical boundaries.*

The challenge is to capture the benefit, while minimising the risk of change: to realise innovation while making better use of existing resources.

Successful deployment accelerates the adoption of common methods and processes across the extended enterprise, facilitates collaboration and links innovation to development. Furthermore, it sustains continuous improvement to intellectual property, allowing capture, management and re-use on derivative programs.



IBM response

The Digital Aircraft – the route to innovation and productivity

IBM, in partnership with Dassault Systèmes, have led the market in the provision of engineering applications to the aerospace industry for many years. Our PLM applications have become the de-facto standard, the system of choice for OEM's, Partners and Suppliers and the core extended enterprise engineering suite for all major new Aircraft programs.

In a new joint initiative, drawing upon our experience of working closely with aerospace clients, we have developed a portfolio of Digital Aircraft Solutions which addresses the specific transformation needs of the industry.

The Digital Aircraft Solutions address the key processes and sub-processes in the design through manufacture of aircraft, across all phases of the program and all participants in the extended enterprise.

IBM PLM Industry Solutions developed in partnership with Dassault Systèmes are field-proven solutions that help manufacturers increase productivity, profitability, and return-on-investment. Developed in conjunction with industry-leading companies, they are based on IBM best practices and DS PLM Practices.

They exploit the power of CATIA V5 for product design and simulation, as well as ENOVIA and SMARTTEAM for business process and lifecycle management. Using DELMIA products, the solutions can be extended to address build and support processes design and simulation.

• Global deployment

IBM has the structure and capability to deploy solutions globally to large, medium and small businesses. It is today working with manufacturers and suppliers not just to implement software, but to help transform organisations by focusing on common tools, processes and practices. IBM and its partners have experience of working with OEMs and suppliers to drive integration globally across the supply chain, whether an engine manufacturer in Europe, a design partner in Asia or a tooling supplier in South America, our Global PLM Team can make it happen.

• Readiness for partnership

As a supplier to the industry we recognise the major impact on suppliers. An overall net decrease in supply chain participants creates both threat and opportunity. Our Digital Aircraft approach recognises the specific needs of partners and suppliers. Our PLM industry solutions focus on increasing the capability of the supplier's engineering enterprise, integrating existing workload and activity, and also on improving readiness for partnership on emerging aircraft programs with the OEMs. Getting into position early with the right tools and processes positions suppliers as high capability and low risk.

• Transformation

IBM Digital Aircraft Solutions developed in partnership with Dassault Systèmes can help you improve your innovation and operational efficiency, enabling you to grow profitably. With world-class business transformation consultants and real, proven solutions customised to your industry and company, we can help you future-proof your business.



Pratt & Whitney Canada – Propulsion system supplier

“Our goal is to become an industry leader in designing engines, using digital technology throughout the entire product lifecycle. IBM and Dassault Systèmes have an unique PLM vision and strategy. Their PLM solutions represent a key element in our Digital Enterprise vision. We plan to be together for a long time.”

*Amal Girgis, CIO,
Pratt & Whitney Canada*

Liebherr – Supplier

“In complex projects, combining information technology tools and industry best practices with aerospace process requirements calls for reliable, sustainable and proven partners. IBM, supported by Dassault Systèmes, meets this partnership qualification because it is a truly global player that ensures an internationally harmonised and controlled delivery of Business Consulting Services and PLM Solutions to European organisations.”

Andre Benhamou, Managing Director, Liebherr Aerospace Toulouse.



Datum Design – Tooling supplier

“Designing in CATIA has enabled us to win business. Our company has doubled in size and our productivity has tripled using the modelling available in CATIA. Because of our knowledge of Version 5, we were able to become more involved in the decision making process of our customer. We also found that modelling, drafting and modifications were much quicker in Version 5, giving us significant productivity gains and a clear advantage over our competitors. CATIA has led to the doubling of our profit over the last two years.”

*Michael Maguire, Joint Managing Director,
Datum Design*



For more information contact your IBM Marketing Representative, IBM Business Partner, or call one of the numbers below:

USA Toll-free 1 800 395 3339
Canada (514) 938 6718
Argentina (54) 11 4319 6594
Brazil (55) 11 3050 5542
Mexico (1) (52) 5 270 64 25

Australia 02 9842 9555
China 86 10 6539 1188 ext. 4774
Hong Kong 2825 7614
India 91 20 649724 / 649621
Indonesia 021 5238622
Japan 3 3808 8510
Korea 822 3781 7583
Malaysia (603) 7720 2069
New Zealand +64 9 359 8785
Philippines 2 819 2345
Singapore 65 320 1234
Taiwan 02 725 9493
Thailand 2 273 4406

Austria 1 211 45 2929
Belgium 2 225 2901
CEMA +421 2 4954 1225
Czech Republic 27 213 1742
Denmark 45 233000
Egypt 539 2539
Finland (0) 9 459 4151
France 01 49 05 70 64
Germany 01 805 426 756
Greece 1 688 14 76
Hungary 01 382 5500
Israel (972) 3 697 8586
Italy (39) 039 600 3767
Netherlands 020 513 3769
Norway 66 99 9361
Poland 22 878 6145
Portugal 21 7915005
Romania 21 224 1544
Russia 095 940 2000
Slovakia +421 2 4954 1225
Slovenia/Croatia 01 479 6676
South Africa 0860 788 788
Spain (34) 91 397 66 11
Sweden 8 763 4394
Switzerland +41 58 333 5370
Turkey 0212 317 1305
United Kingdom 0870 010 2510

IBM Eurocoordination

Product Lifecycle Management
Tour Descartes
La Defense 5
2, avenue Gambetta
92066 Paris La Defense Cedex
France

The IBM home page can be found at ibm.com

IBM, the IBM logo, ibm.com and the On Demand logo are registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

CATIA® and ENOVIA® are registered trademarks of Dassault Systèmes.

SMARTTEAM® is a registered trademark of SmartTeam Corporation Ltd.

Other company, product and service names may be trademarks, or service marks of others.

References in this publication to IBM products, programs or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program or service is not intended to imply that only IBM's product, program or service may be used. Any functionally equivalent product, program or service may be used instead.

IBM hardware products are manufactured from new parts, or new and used parts. In some cases, the hardware product may not be new and may have been previously installed. Regardless, IBM warranty terms apply.

This publication is for general guidance only.

Photographs may show design models.
Image shown on page 5 courtesy Airbus Deutschland.

© Copyright IBM Corporation 2004.
All Rights Reserved.

ibm.com/solutions/plm

ON DEMAND BUSINESS